



**University of
Zurich**^{UZH}

**Zurich Open Repository and
Archive**

University of Zurich
University Library
Strickhofstrasse 39
CH-8057 Zurich
www.zora.uzh.ch

Year: 2014

Structured ambivalence in grandchild care and the quality of life among European grandparents

Neuberger, Franz ; Haberkern, Klaus

Abstract: This study employs the concept of structured ambivalence to analyse the effect of grandchild care on quality of life (QoL) in different cultural contexts. We define structured ambivalence as the contradiction between behaviour and cultural norms. The analysis is based on the Survey of Health, Ageing and Retirement in Europe with 14 countries in the sample. We focus on grandparents aged 50 and over with at least one grandchild 12 years old or younger ($n = 12,740$). In countries with high grandparent obligations, grandparents who did not look after their grandchildren reported a lower quality of life. Compliance with such grandparental obligations (e.g. providing grandchild care in a country with high grandparent obligations) was found to increase the QoL of grandparents. Family policy should consider family practices that better match the realities of current grandparents' lives in order to reduce structured ambivalence and increase the QoL of grandparents.

DOI: <https://doi.org/10.1007/s10433-013-0294-4>

Posted at the Zurich Open Repository and Archive, University of Zurich

ZORA URL: <https://doi.org/10.5167/uzh-84486>

Journal Article

Accepted Version

Originally published at:

Neuberger, Franz; Haberkern, Klaus (2014). Structured ambivalence in grandchild care and the quality of life among European grandparents. *European Journal of Ageing*, 11(2):171-181.

DOI: <https://doi.org/10.1007/s10433-013-0294-4>

European Journal of Ageing, in Press

Structured Ambivalence in Grandchild Care and the Quality of Life among European Grandparents

Franz Neuberger*, Klaus Haberkern*

*Institute of Sociology, University of Zurich, Andreasstrasse 15, 8050 Zurich, Switzerland

Address for correspondence: Franz Neuberger, Institute of Sociology, University of Zurich,
Andreasstrasse 15, 8050 Zurich, Switzerland

Number of Figures: 3

Number of Tables: 1

Several supplementary figures and tables

Keywords: Grandchild care, Quality of life, Structured ambivalence, Europe

DOI 10.1007/s10433-013-0294-4

ABSTRACT

Purpose: This study employs the concept of structured ambivalence to analyse the effect of grandchild care on quality of life in different cultural contexts. **Design and Methods:** We define structured ambivalence as the contradiction between behaviour and cultural norms. The analysis is based on the Survey of Health, Ageing and Retirement in Europe with 14 countries in the sample. We focus on grandparents aged 50 and over with at least one grandchild 12 years old or younger (n=12,740). **Results:** In countries with high grandparent obligations, grandparents who did not look after their grandchildren reported a lower quality of life. Compliance with such grandparent obligations (e.g. providing grandchild care in a country with high grandparent obligations) was found to increase quality of life of grandparents. **Implications:** Family policy should consider family practices that better match the realities of current grandparents' lives in order to reduce structured ambivalence and increase the quality of life of grandparents.

INTRODUCTION

The family is the most important provider of support. Although marriage and the nuclear family have declined over the past decades (OECD 2012), parents and adult children still support each other over the life course (e.g. Bengtson 2001; Silverstein, Bengtson and Lawton 1997; Brandt, Haberkern and Szydlik 2009). Older parents support their children when the latter establish families, especially by looking after the grandchildren. In many European countries, grandparents enable young parents (and particularly mothers) to combine family and work. However, intergenerational support does not always bring harmony and joy. It is sometimes a burden and may cause conflicts. Frequently, family support is accompanied by ambivalent feelings that are detrimental to well-being (Suitor, Gilligan and Pillemer 2011).

Luescher and Pillemer's (1998) work on ambivalence in family relationships has motivated several empirical studies on ambivalence and quality of life (e.g. Fingerman et al. 2008; Kiecolt, Blieszner and Savla 2011; Uchino et al. 2004). However, few cross-cultural studies on this topic have been conducted so far (e.g. Lowenstein 2007). Moreover, there has been no comparative social research on structured ambivalence as a mismatch between individual behaviour and structural dimensions such as social norms or policies.

We employ the concept of structured ambivalence to analyse grandparents' quality of life in Europe. Following Connidis and McMullin (2002a, 2002b), we define structured ambivalence as the existence of contradictions between individual behaviour in the role of grandparents and the social expectations that grandparents face. Social expectations of grandparenting are known to differ across European countries (Igel and Szydlik 2011, Muller and Litwin 2011). The differing beliefs and attitudes concerning grandparental obligations likely frame the perception of grandchild care, e.g. whether grandparents see their commitment as an advantage or as being taken advantage of.

Structured ambivalence arises, for example, when grandparents fail to provide grandchild care in countries with high social expectations in terms of grandparent obligations. As non-conformity is less accepted and rewarding than behaviour in line with normative expectations and ambivalence is known to be stressful (e.g. Fingerman et al. 2008), we hypothesise that structured ambivalence lowers quality of life (QoL). Since adherence to social obligations is generally more accepted, we hypothesise that grandparents who conform to such norms have greater QoL. We tested these hypotheses using data from the Survey of Health, Ageing and Retirement in Europe.

AMBIVALENCE AND QUALITY OF LIFE

Psychological and sociological approaches highlight the importance of ambivalence in order to understand the complexities of intergenerational relationships. According to Luescher and Pillemer (1998), ambivalence originates from emotional contradictions at the individual level, such as the coexistence of positive and negative feelings to a close person. Connidis and McMullin (2002a) expand the ambivalence concept to capture a mismatch between individual behaviour and the societal context, such as social norms and welfare state policies, which they call “structured ambivalence”.

In sociological research, the concept of ambivalence is used in two ways. On the one hand, ambivalence is applied to classify the quality of family relationships (Ferring, Michels, Boll and Filipp 2009; Steinbach 2008; van Gaalen, Dykstra and Komter 2010). On the other hand, empirical research focuses on the emotional consequences of ambivalent settings (Hillcoat-Nalletamby and Phillips 2011). In the latter approach, ambivalence is used as a predictor of well-being, quality of life or symptoms of depression. Ambivalent settings are found to be stressful and to reduce psychological well-being (Fingerman et al. 2008; Kiecolt, Blieszner and Savla 2011; Lowenstein 2007; Uchino et al. 2004).

Ambivalence at the individual level is measured either directly or indirectly. Direct measures include questions about mixed feelings or emotions with regard to intergenerational relationships (Lowenstein 2007; Pillemer et al. 2007). Indirect measures are based on combined scales of solidarity and/or conflict dimensions (Steinbach 2008; van Gaalen, Dykstra and Komter 2010; Willson et al. 2006) or on ratings of positive and negative feelings (Ferring, Michels, Boll and Filipp 2009). Studies using both direct and indirect measures of ambivalence find that ambivalence reduces well-being (Suitor, Gilligan and Pillemer 2011).

With one exception, the concept of ambivalence has not been applied in comparative research. Lowenstein (2007) addressed ambivalence in a five-country comparison but did not include contextual factors. To our knowledge, there is, thus far, no study of structured ambivalence that examines the contradictions between individual behaviour and cultural norms. That is, the idea of structured ambivalence as a bridging concept between the individual and society, as outlined by Connidis and McMullin (2002a; 2002b), has not yet been pursued.

STRUCTURED AMBIVALENCE: GRANDCHILD CARE AND SOCIAL OBLIGATIONS

The increase in longevity and healthy life years allows grandparents to play an active role for a longer period over the lifespan (Fuller-Thomson and Minkler 2001). Moreover, grandchildren are important in grandparents' lives. Close relationships with grandchildren raises quality of life (Drew and Silverstein 2004) whereas the loss of contact with grandchildren increases depressive symptoms (Drew and Silverstein 2007).

In European countries, grandparents provide a great deal of childcare (OECD 2012). The provision of grandchild care helps working mothers and fathers who have no access to or cannot afford public childcare, particularly in countries with poor public childcare services. (Igel and Szydlik 2011). However, the role of grandparents is not formally acknowledged, as

reflected in the fact that grandparents neither receive financial transfers from the state nor have access to grandparent care leave when they take over childcare (OECD 2012).

Igel and Szydlik (2011) provide evidence that the prevalence of grandchild care in European countries is related to contextual factors. Social expectations of what grandparents should do and what their duties are vary across Europe and are closely related to family policies. In countries with a low level of public childcare services, such as Italy and Greece, grandparents are expected to provide regular and intensive grandchild care when the parents are employed. In Scandinavian countries with affordable, high-quality childcare services, like in Denmark and Sweden, working parents do not have to rely on grandparents on a daily basis. Analysing the childcare strategies of European mothers, Jappens and van Bavel (2012) provide evidence that the normative context in a region influences the likelihood of relying on grandchild care instead of formal childcare, even when the availability of formal childcare is controlled.

We assume that engagement in grandchild care has different meanings and provides grandparents with different benefits in different social contexts. On the one hand, grandchild care can be experienced as a joyful and fulfilling task and an opportunity to spend time with beloved grandchildren (Drew and Silverstein 2004). On the other hand, it can be perceived negatively: as a stressful burden that constrains individual freedom (Musil et al. 2011).

Considering the different normative expectations toward grandchild care in the countries under study, we can identify at least two possible mechanisms of structured ambivalence. In countries in which the view that grandparents should provide grandchild care is dominant, not spending time with the grandchildren may trigger negative emotions that outweigh the gain in individual freedom and thereby reduce QoL. Alternatively, in countries with low social expectations towards grandparenting, constraints on individual freedom that arise from providing needed grandchild care may outweigh the positive aspects of caring and reduce QoL. Furthermore, we assume that providing grandchild care has a less influential effect on

QoL in countries with less pronounced grandparent obligations in general. In these countries, the rewards of conforming and costs of non-conforming behaviour tend to be smaller, as social expectations of grandparents are low.

We conceptualise structured ambivalence as a contradiction between individual behaviour of grandparents (individual action: providing or not providing grandchild care) and normative expectations of grandparents in a country (group belonging, cf. Hillcoat-Nalletamby and Phillips 2011). A mismatch between individual behaviour and normative expectations in a country – which we refer to as structured ambivalence – is assumed to reduce the QoL of grandparents. We assume no influence or even a positive influence on QoL when individual behaviour matches the social expectations of grandparents in a country (Elster 1989). Hence, in countries with pronounced normative obligations for grandparents, norm-conforming behaviour, such as providing grandchild care, is expected to increase QoL. Structured ambivalence in these countries exists when grandparents do not provide expected grandchild care.

METHODS

Sample

We used pooled data from the Survey of Health, Ageing and Retirement in Europe (SHARE, wave 1 and 2). SHARE included respondents aged 50 years and over and their partners from 14 European countries plus Israel. As our focus was on European countries, we excluded Israel from the current analysis. The countries in our study were Austria (AT), Belgium (BE), Czech Republic (CZ), Denmark (DK), France (FR), Germany (DE), Greece (GR), Ireland (IE), Italy (IT), the Netherlands (NL), Poland (PL), Spain (ES), Sweden (SE), and Switzerland (CH).

We use questions from the drop-off questionnaire that was only asked once. Hence, we included the first interview with each respondent. Ireland, Poland and the Czech Republic joined SHARE in the second wave. All respondents from these countries were first interviewed in wave 2. In other countries, refresher samples were added. Respondents from these countries are either from wave 1 or 2 depending on when they joined SHARE.

Waves 1 and 2 of SHARE contain over 40,000 respondents, but we addressed only respondents who have grandchildren in potential need of grandparental care. Our sample is therefore restricted to grandparents aged 50 years and over with at least one living grandchild aged 12 years or younger. We considered any such respondent to be a potential provider of grandchild care ($n=18,627$).

Questions addressing quality of life were asked in the SHARE drop-off questionnaire, which had a lower response rate than the main questionnaire. We excluded 4,809 cases because of missing values on quality of life and 1,078 cases due to missing values on other variables, mainly on intensity of grandchild care (501). Our final analytic sample included 12,740 respondents.

Measures

Quality of life. QoL is operationalized using the CASP-12 index, designed for older people. CASP is based on 12 Likert-scaled items representing four dimensions: control, autonomy, self-realization and pleasure (Hyde, Wiggins, Higgs and Blane 2003). The CASP-12 index can take on any value from 0 to 36, where a score of 36 represents the highest possible QoL. Overall, grandparents report a high QoL ($M= 25.42$, $SD= 6.09$, Cronbach's Alpha=0.81).

Grandchild care. Respondents were asked if they regularly or occasionally had looked after their grandchildren in the absence of the parents. If so, they were asked how often and how many hours they had done so: "On average, how often did you look after the child(ren) of

child X in the last twelve months? Was it ... 1. Almost daily, 2. Almost every week, 3. Almost every month, 4. Less often?” Furthermore, they were asked how many hours of grandchild care they had provided on average during this period. We used this information to summarise the total hours of grandchild care provided by any respondent and to create two dummy variables. The dummy “provision of grandchild care” variable indicates whether respondents had provided grandchild care. We also created a second dummy—high-intensity grandchild care—to differentiate between high intensity (>8 hours) and low intensity grandchild care (1-8 hours). The share of the sample that provides grandchild care is 61.46 %; 25.69 % of the respondents had provided high-intensity support (>8 hours) and 35.77 % low-intensity support (1-8 hours of grandchild care per week). We picked 8 hours of grandchild care as cut-off point as this refers to one standard working day in most European countries. Figure 2 shows the distribution of grandchild care by country.

Grandparent obligations. We measured social expectations towards grandparents in each country under study. The index is based on aggregated individual expectations of all respondents to the SHARE drop-off questionnaire (n=28,122, see also Muller and Litwin 2011). The index was constructed in two steps. First, we created an additive index from the following three items: (1) Grandparents’ duty is to be there for grandchildren in cases of difficulty, (2) Grandparents’ duty is to contribute toward the economic security of grandchildren and their families, and (3) Grandparents’ duty is to help grandchildren’s parents in looking after young grandchildren. All answers were measured on 5-point scales from 1 (strongly disagree) to 5 (strongly agree) and transformed into an additive index ranging from 0 to 12. The index’s scale reliability score is 0.80. Second, we used the respective means of the index to measure the social expectations of grandparents towards their grandchildren in each country. A higher country average of the index represents higher expectations of grandparents being there for their grandchildren and a greater obligation of grandparents to

provide grandchild care in a country. Figure 2 provides information on the country-specific grandparent obligations.

We further controlled for several individual characteristics of the grandparent related to QoL.

Age. Age is known to influence QoL (e.g. Blane, Netuveli and Bartley 2007; Blanchflower and Oswald 2008) and is included in years ($M=63.63$, $SD=7.92$).

Gender. Against gendered expectations of familial involvement, gender differences seem to be less pronounced in grandchild care than in other forms of intergenerational support (Igel and Szydlik 2011). Differences in the grandparenting of grandmothers and grandfathers are also captured in the grandchild care intensity variable. We included gender (male=0, female=1, 54.07 % female) as a dummy variable in order to capture different QoL levels for men and women.

Physical health. Health is known to increase QoL (e.g. Netuveli et al. 2006) and active grandparenting (Hughes et al. 2007). Subjective health, ranging from poor (1) to excellent (5), is included in the model as a quasi-metric variable ($M= 3.13$, $SD= 1.10$).

Education. We controlled for education as a proxy for social class by recoding the ISCED-97 (International Standard Classification of Education) scale into the educational levels low (1, ISCED levels 0, 1 and 2), medium (2, ISCED levels 3 and 4) and high (3, ISCED levels 5 and 6). Low education (50.54 %) is the reference category; medium (32.72 %) and high (16.73 %) are included as dummy variables.

Financial situation. Dependencies are known to increase ambivalence (Willson et al. 2006), and financial hardship is known to decrease QoL in general (Easterlin 2001). We used a subjective measure for financial background: respondents were asked if their household was able to make ends meet. Responses range from “great difficulty (1)” to “easily (4)” with higher values indicating a better economic position. This subjective measure has been shown

to be a robust indicator of financial status (Litwin and Sapir 2009). The variable is included as a quasi-metric variable in the model ($M=2.77$, $SD=0.97$).

Employment status. Employment status is included as a set of dummy variables with the categories unemployed (3.27 %), homemaker (13.94 %), permanently sick or disabled (4.25 %), employed (24.80 %) and retired (53.74 %, reference category). Employment status is linked to income as well as to time constraints. Employed grandparents have less time to look after their grandchildren but possibly have greater financial resources to help their children pay for childcare services. Unemployment is negatively correlated with QoL (Netuveli et al. 2006).

Foreign country of birth. We included a dummy variable to control for the respondent's country of birth, as family practices and QoL may differ between natives and immigrants (0=respondent was born in the country, 1=respondent was born abroad; 6.44 % were born abroad).

Partnership. Partnership is included as a dummy variable (no partner=0, living with partner=1, 83.22 % live with partner). On the one hand, a partner can provide emotional support and help with grandchild care. On the other hand, the partner may need help and care her-/himself, and therefore time conflicts between partner care and grandchild care can reduce QoL (Blanchflower and Oswald 2008).

Co-residence with grandchildren. Co-residence influences the possibility of providing grandchild care and the intensity of grandchild care (Igel and Szydlik 2011). We therefore included a dummy variable (co-residing grandchildren aged 12 or younger=1, no co-residing grandchildren aged 12 or younger=0; 10.82 % co-residence) to control for co-residence with grandchildren aged 12 or younger in the same house or household (Isengard and Szydlik 2012).

Instrumental support. Grandparents and older persons are the main providers of instrumental support to young families and older age groups (OECD 2012). Instrumental support such as personal care can involve heavy care burdens and responsibilities and, therefore, may reduce QoL. We included a dummy variable for instrumental support given to any person in or outside the household (0=respondent does not provide support, 1=respondent provides support to someone in or outside the household; 37.34 % provide support) to control for potential care burdens beyond grandchild care.

Analytic Strategy

Comparative data of the kind that SHARE provides allow family sociologists to research the influence of cultural and institutional factors using multilevel models. Most authors assume individual characteristics to have the same effect in all countries (Deindl and Brandt 2011; Hank and Buber 2009; Igel and Szydlik 2011). As we are interested in whether and how the effect of individual behaviour (providing grandchild care) depends on contextual factors (grandparent obligations), we used multilevel models with random effects and cross-level interactions.

SHARE data have a hierarchical structure, with persons nested in countries. Intra-class correlation in our sample is 0.18, meaning that almost 20 per cent of the variance in the dependent variable QoL is at the country level and around 80 per cent of variance is at the individual level. Ignoring the hierarchical structure would result in biased standard errors (Snijders and Bosker 1999).

We conducted a four-step analysis. First, we estimated a basic hierarchical model including every variable as a fixed effect (Model 1). The implied assumption is that our explanatory variables have the same effect in all countries under study. Second, we estimated a model with random effects for grandchild care (Model 2). Hence, the effect of grandchild care was allowed to vary across countries. Third, we added views of grandparent obligations as a

macro indicator (Model 3) to explain country differences in the QoL of grandparents. Last, we included a cross-level interaction of grandchild care with grandparent obligations (Model 4). We used the interaction term to test whether the existence of a discrepancy between individual grandparent behaviour and a country's grandparent obligations (structured ambivalence) reduced QoL.

All models were estimated with restricted maximum likelihood estimation (REML), which is known to be less biased than unrestricted estimation (Snijders and Bosker 1999). Estimates are shown in Table 1. We present standard errors and significance levels based on z-values. For a general comparison of Model 1 with Model 2, and Model 3 with Model 4, we used p-values from the analysis of variance (ANOVA).

RESULTS

Quality of Life, Grandparent Obligations and Grandchild Care

Figure 1 shows box plots for the distribution of the CASP index for all countries under study. The countries are ordered by the rate of agreement with the statements supporting high levels of grandparent duties.

<Please insert Figure 1 about here>

<Figure 1 Title: Quality of life in countries under study>

<Figure 1 Caption: Data: SHARE, release 2.5.0; 12740 persons aged 50+ and their partners with at least one living child and grandchild; box-plots of quality of life overall and by country (CASP), own calculations.>

The majority of European grandparents report a high QoL. QoL is highest among grandparents in Switzerland, the Netherlands and Denmark and lowest in the Czech Republic, Greece, Italy and Poland. The stronger the agreement with high grandparent obligations, the

lower the average QoL was. Grandparents in Italy report the highest grandparent duties and have a comparatively low QoL. On the other end, the Dutch respondents report the lowest level of grandparent duties and a high QoL.

<Please insert Figure 2 about here>

<Figure 2 Title: Grandparenting norms and persons who provide grandchild care by country (%)>

<Figure 2 Caption: Data: SHARE, release 2.5.0; 12740 persons aged 50+ and their partners with at least one living child and grandchild; average grandparent obligations (left) and average grandchild care (low and high intensity care) provided by respondents by country (right), own calculations.>

Figure 2 relates the index on grandparental obligations to provide grandchild care (left) to the prevalence of low and intensive grandchild care in the countries under study (right) without controlling for other factors. We observe a negative relationship between the overall prevalence of grandchild care and the level of grandparent obligations, but a positive relationship between the level of obligations and the intensity of grandchild care. The lower the grandparent obligations, the more grandparents engage in grandchild care, but the less hours they provide. In Denmark (DK) and the Netherlands (NL) where the grandparent role is not loaded with duties, more than 7 out of 10 grandparents provide grandchild care, but the majority provides less than 8 hours. In Italy (IT) and Spain (ES), where grandparents are expected to provide grandchild care when necessary, we observe a below average overall prevalence of grandchild care, but the majority provides more than 8 hours a week. However, not all countries follow this pattern. In the Czech Republic (CZ), for instance, we find low agreement with grandparent obligations and a low provision of grandchild care. In France (FR), both agreement with high grandparent obligations and the provision of grandchild care

are widespread. For a discussion of the occurrence and intensity of grandchild care in Europe, see Hank and Buber (2009) and Igel and Szydlik (2011).

Models

Table 1 provides information on the models. If not stated otherwise, all reported effects are significant. Age has a negative effect on QoL. In line with former research, women report a lower QoL. Albeit grandmothers tend to provide more grandchild care, separate models for grandmothers and grandfathers do not reveal significant differences (results not shown). Health proves to be the strongest predictor. The better the respondents rate their health, the higher they rate their QoL. Higher Education and financial well-being is associated with higher QoL. Grandparents who are employed or unemployed, are homemakers or permanently sick have a lower QoL whereas retired grandparents have the highest QoL. Having been born in a foreign country has no significant effect on QoL. Living with a partner is related to a higher QoL. Co-residing with grandchildren aged 12 or younger is related to a lower QoL while providing support to someone else has no significant effect. The intensity of grandchild care does not influence QoL. As a robustness test, we estimated a model with grandchild care measured in hours per week instead of high- and low-intensity grandchild care. The model confirms that the intensity of grandchild care has no effect on QoL of grandparents (results not shown).

All estimates are stable over the four models. With the exception of model 4, providing grandchild care has a positively significant relation to QoL.

<Please insert Table 1 about here>

<Table 1 Title: Grandchild care and quality of life>

<Table 1 Caption: Model 1: Hierarchical linear model (HLM) with random intercept; Model 2: HLM with random effect for grandchild care; Model 3: HLM with macro indicator; Model

4: HLM with cross-level interaction. Data: SHARE, release 2.5.0; 12740 grandparents aged 50+ with at least one living grandchild aged 12 years or younger; own calculations. Coefficients from REML estimation. Significance levels: '***' 0.001, '**' 0.01 and '*' 0.05.>

Model 1 assumes a constant and similar effect of providing grandchild care in all countries. Since cultural norms differ across countries, this is a very restrictive assumption. Allowing this effect to vary over countries (Model 2) significantly improves the model fit (p-value from ANOVA: 0.004**).

Figure 3 (left) shows the country-specific random effects of providing grandchild care on QoL estimated in Model 2. A country's individual effect size is indicated by its vertical position (y-axis). In Greece (GR), for instance, providing grandchild care is related to a higher QoL (1.2 points on the index) while the effect is close to zero in the Netherlands (NL). Therefore, providing or not providing grandchild care is not related to QoL in this country. Standard errors (grey bars) indicate the precision of the individual estimates. The country-specific effects are ordered by the level of agreement with high grandparent obligations in each country (x-axis). The average effect of grandchild care on QoL is 0.46 (fixed effect, horizontal slash-dotted line).

<Please insert Figure 3 about here>

<Figure 3 Title: Random effects and conditional effect of grandchild care>

<Figure 3 Caption: Data: SHARE, release 2.5.0; 12,740 persons aged 50+ and their partners with at least one living child and grandchild; random effects of providing grandchild care on quality of life (left) and conditional effect of providing grandchild care and of grandparent obligations (right); own calculations.>

Figure 3 (left) reveals that the relationship between providing grandchild care and QoL follows a distinctive pattern. The higher the agreement with high grandparent obligations, the

more the provision of grandchild care increases grandparents QoL. It is strongest in Greece (GR), Poland (PL) and Italy (IT) and weakest in the Czech Republic (CZ), Austria (AT) and the Netherlands (NL). With the exception of Spain (ES), all countries follow this pattern. The black solid line indicates a regression line, using grandparent obligations as independent and random effects of grandchild care as dependent variable.

In Model 3, we included grandparent obligations as a macro indicator. High grandparent obligations have a negative effect on QoL. Inclusion of the macro variable influenced the point estimate and variance of the intercept. The greater the agreement with grandparent obligations in a country, the lower is the average QoL of grandparents.

In Model 4, we included a cross-level interaction between social expectations of grandparents (grandparent obligations) and grandchild care. The fixed effect part of the estimate for grandchild care turns negative in this model (from 0.46 ** in Model 3 to -2.33 * in Model 4) whereas the interaction term is positive (0.36 **). The variance of the random effects of grandchild care decreases from 0.176 in Model 3 to 0.081 in Model 4. Hence, including a cross-level interaction between providing grandchild care and grandparent obligations explains about half the variance in the random effects of grandchild care. ANOVA clearly favours Model 4 over Model 3 (p-value from ANOVA: 0.011*). Including the cross-level interaction significantly improves the model. Hence, the greater the agreement with high grandparents' duties, the more positive the relations between providing grandchild care and QoL are.

Interaction terms are difficult to interpret by numbers only. Figure 3 (right) visualises the interaction between providing grandchild care and grandparent obligations and its effect on QoL (black solid line). Confidence intervals (95%, $\pm 1.96 \times \text{standard error}$) are indicated by the grey slash-dotted lines. The higher the agreement with grandparent obligations, the more providing grandchild care is related to a higher QoL.

DISCUSSION

This study extends prior research on ambivalence and quality of life. The model is based on the concept of structured ambivalence, which has been discussed as a bridging concept between individual behaviour and social context (Bengtson et al. 2002; Connidis and McMullin 2002a, 2002b; Luescher 2002). We not only provide the first example of how to measure structured ambivalence in a cross-cultural framework, but also new insights into the relation between grandchild care and QoL.

Our findings reveal that the relation between providing grandchild care and QoL is framed by social expectations about the grandparent role and obligations. If the grandparent role is less loaded with obligations, providing or not providing grandchild care is not related to QoL. If looking after their grandchild is part of the role expected of grandparents, providing grandchild care is significantly related to a higher QoL. Hence, structured ambivalence reduces QoL. This is, for instance, reflected in the fact that in countries with high social expectations of grandparents, grandparents who do not or cannot live up to these expectations report a lower QoL.

Overall, providing grandchild care is related to higher QoL among grandparents. However, European countries have different family cultures with varying expectations of and roles for grandparents. For example, in the Netherlands and in Denmark, where the grandparents' role is not charged with duties and obligations to provide support, providing or not providing grandchild care makes no difference to grandparents' QoL. In the Mediterranean countries, in comparison, grandparents are expected to be there for their children and grandchildren. In these countries, meeting the obligation to provide grandchild care is rewarding and positively related to QoL, even if it involves providing more intensive support. Ambivalent and discomforting situations arise when grandparents fail to meet expectations of grandparenthood.

While we find no benefits from grandparent role enactment in countries like Denmark or Sweden, we do find a generally high QoL in them. Thus, this paper must not be read as an argument against generous welfare states with limited expectations of grandparental obligations. Overall, the QoL of grandparents is higher in countries with limited expectations of grandparental obligations. Welfare state benefits in these countries may outweigh potential benefits of role enactment in those countries where expectations of grandparent obligations are high. Hence, the positive effects of grandparenting in the Mediterranean is not likely to be a sign of vivid family solidarity but rather an indication of strong dependencies between family members as a safeguard against life risks in the absence of state support. Providing grandchild care might also be a way out of loneliness in old age (de Gierveld and Dykstra 2008).

Our results have implications for researchers in family relations and QoL. We show that the relationship between QoL and provision of grandchild care is influenced not only by individual characteristics but also by contextual factors such as a country's normative framework. Hence, studies on QoL in single country populations should consider a country's contextual structures since effects might depend on the specific context. Our study indicates that researchers should assume possible interactions between individual and contextual variables in relation to QoL – a possibility that has been researched only recently (e.g. Huijts, Kraaykamp and Subramanian 2013). As we show, the concept of structured ambivalence can be fruitfully used to explore these interactions.

Our study has some limitations. Although SHARE provides panel data, there are very few cases in more than one wave of individuals who started or stopped providing grandchild care. Furthermore, the first wave does not include Ireland, Poland and the Czech Republic. Wave 4 includes more European countries, but does not ask about grandparent obligations. Hence, the cross-sectional design employed here may appear inappropriate at first glance, but seems

reasonable at the second, even if it is impossible to infer causality. Albeit other macro variables, e.g. the availability of public childcare in a country, are likely to moderate the effect of grandchild care, we can only test one macro indicator at a time given our small country sample. Several studies focus on ambivalences in dyadic family relations in single countries (Birditt, Fingerman and Zarit 2010; Fingerman et al. 2012; Ward, Spitze and Deane 2009). As we research QoL in different countries, we could not consider the specific nature of multiple grandparent-grandchild or grandparent-parent relationships at the same time. This would have overburdened the estimation of random effects and interactions. Despite the limitations, we provide new insights into grandchild care in European countries and how the cultural context moderates the effect of grandchild care on QoL.

What are the policy implications from this analysis? Against the background of demographic ageing, most European governments face tight public budgets. In order to curb costs, governments are increasingly under pressure to shift responsibility back to individuals and their families. At the same time, young mothers and older populations are increasingly expected to participate in the labour market and work longer. Higher labour force participation rates of parents increase the demand for grandchild care. Grandparents themselves will be less able to meet grandparental obligations. For grandmothers in particular, the risk of ambivalent situations increases as they usually provide more intensive grandchild care, but also tend to participate in the labour market more frequently in recent decades. These contradictory expectations of working and caring cause structured ambivalence.

Grandparents will increasingly have to negotiate meeting family duties and economic obligations – a challenge of managing structured ambivalence. Social policies for young families should not only focus on work-family conflicts and the labour force participation of mothers. Policy programmes should also be designed to meet grandparents' needs and increase their QoL. The concept of structured ambivalence can help policymakers understand

unintended side effects of social policy programmes and keep an observant eye on contradictions between the normative foundations of social policy, e.g. implicit assumptions of what the purpose of family is, and family practice.

There is no European panacea to dissolve structured ambivalence created by increasing labour force participation of women and older persons and family obligations. On the one hand, policymakers can implement childcare services as complementary alternatives to informal childcare in order to create more room for negotiating the grandparent role in countries with pronounced grandparent obligations. On the other hand, policymakers can contribute to putting grandparents in a better position to play an active role in supporting parents who proceed with their professional careers, e.g. by offering grandparent allowance or grandparent leave programmes (OECD 2012). Taking national differences into account, policymakers could ease the provision of grandchild care and make it more attractive and comfortable for all: children, parents and grandparents.

Given the tight budgets in most European countries, countries with high expectations of grandparental obligations should devote the most attention to policy programmes such as grandchild care leave. In countries with low grandparental obligations, policymakers should put public childcare provision at the top of family policy. Of course, cultural norms and public policy are interdependent and neither could be adjusted easily. In a short-term perspective, public policy can provide alternatives to a predominant family practice that may cause structured ambivalence. In the long run, public policy can produce shifts in cultural norms when an increasing number of grandparents and families adapt to public alternatives to grandchild care. Hence, public policy can help to reduce structured ambivalence directly by providing alternatives in ambivalent situations and indirectly by removing barriers and thereby fostering the development of greater flexibility in grandchild care obligations. Hence, our conclusions place some restrictions on the notion of a uniform European social policy for

families. Whereas European countries may define the same targets, they may have to take different roads at a different pace.

ACKNOWLEDGEMENT

This paper uses data from SHARELIFE release 2.5.0 as of July 29, 2010. The SHARE data collection has been primarily funded by the European Commission through the Fifth Framework Programme (project QLK6-CT-2001- 00360 in the thematic programme Quality of Life), through the Sixth Framework Programme (projects SHARE-I3, RII-CT- 2006-062193, COMPARE, CIT5-CT-2005-028857, and SHARELIFE, CIT4-CT-2006-028812) and through the Seventh Framework Programme (SHARE-PREP, 211909 and SHARE-LEAP, 227822). Additional funding from the U.S. National Institute on Aging (U01 AG09740-13S2, P01 AG005842, P01 AG08291, P30 AG12815, Y1-AG-4553-01 and OGHA 04-064, IAG BSR06-11, R21 AG025169) as well as from various national sources is gratefully acknowledged (see www.share-project.org for a full list of funding institutions).

REFERENCES

- Bengtson V L (2001). Beyond the nuclear family: The increasing importance of multigenerational bonds. *J Marriage Fam* 63(1):1-16. doi: 10.1111/j.1741-3737.2001.00001.x
- Bengtson V, Giarrusso R, Mabry J B, Silverstein M (2002) Solidarity, conflict, and ambivalence: Complementary or competing perspectives on intergenerational relationships? *J Marriage Fam* 64(3):568-576. doi:10.1111/j.1741-3737.2002.00568.x
- Birditt K S, Fingerman K L, Zarit S H (2010) Adult children's problems and successes: implications for intergenerational ambivalence. *J Gerontol B-Psychol* 65(2):145-153. doi:10.1093/geronb/gbp125
- Blanchflower D G, Oswald A J (2008) Is well-being U-shaped over the life cycle? *Soc Sci Med* 66:1733-1749. doi:10.1016/j.socscimed.2008.01.030

- Blane D, Netuveli, G, Bartley M (2007) Does quality of life at older ages vary with socio-economic position? *Sociology* 41(4):717-726. doi:10.1177/0038038507078927
- Brandt M, Haberkern K, Szydlik M (2009) Intergenerational help and care in Europe. *Eur Sociol Rev* 25(5):585-601. doi:10.1093/esr/jcn076
- Connidis I A, McMullin J A (2002a) Ambivalence, family ties, and doing sociology. *J Marriage Fam* 64(3):594-601. doi:10.1111/j.1741-3737.2002.00594.x
- Connidis I A, McMullin J A (2002b) Sociological ambivalence and family ties: A critical perspective. *J Marriage Fam* 64(3):558-567. doi:10.1111/j.1741-3737.2002.00558.x
- Deindl C, Brandt M (2011) Financial support and practical help between older parents and their middle-aged children in Europe. *Ageing Soc* 31:645-662. doi:http://dx.doi.org/10.1017/S0144686X10001212
- Drew L M, Silverstein M (2004) Inter-generational role investments of great-grandparents: Consequences for psychological well-being. *Ageing Soc* 24:95-111. doi:10.1017/S0144686X03001533
- Drew L M, Silverstein M (2007) Grandparents' psychological well-being after loss of contact with their grandchildren. *J Fam Psychol* 21(3):372-379. doi:10.1037/0893-3200.21.3.372
- Easterlin R A (2001) Income and happiness: Towards a unified theory. *Econ J* 111(473):465-484. doi:10.1111/1468-0297.00646
- Elster J (1989) *The cement of society. A study of social order.* Cambridge University Press, New York
- Ferring D, Michels T, Boll T, Filipp S H (2009) Emotional relationship quality of adult children with ageing parents: on solidarity, conflict and ambivalence. *Eur J Ageing* 6(4):253-265. doi:10.1007/s10433-009-0133-9
- Finch J, Mason J (1993) *Negotiating family responsibilities.* Routledge, London

- Fingerman K L, Cheng Y P, Birditt K, Zarit S (2012) Only as happy as the least happy child: multiple grown children's problems and successes and middle-aged parents' well-being. *J Gerontol B-Psychol* 67(2):184-193. doi:10.1093/geronb/gbr086
- Fingerman K L, Pitzer L, Lefkowitz E S, Birditt, K S, Mroczek D (2008) Ambivalent relationship qualities between adults and their parents: Implications for the well-being of both parties. *J Gerontol B-Psychol* 63(6):362-371. doi:10.1093/geronb/gbp125
- Fuller-Thomson E, Minkler M (2001) American grandparents providing extensive child care to their grandchildren: Prevalence and profile. *Gerontologist*, 41(2):201-209. doi:10.1093/geront/41.2.201
- de Gierveld J J, Dykstra P A (2008) Virtue is its own reward? Support-giving in the family and loneliness in middle and old age. *Ageing Soc* 28(2):271-287. doi:10.1017/S0144686X07006629
- Hank K, Buber I (2009) Grandparents caring for their grandchildren. Findings from the 2004 survey of health, ageing, and retirement in Europe. *J Fam Issues* 30(1):53-73. doi:10.1177/0192513X08322627
- Hillcoat-Nalletamby S, Phillips J E (2011) Sociological ambivalence revisited. *Sociology* 45(2):202-217. doi:10.1177/0038038510394018
- Hughes M E, Waite L J, LaPierre T A, Luo Y (2007) All in the family: The impact of caring for grandchildren on grandparents' health. *J Gerontol B-Psychol* 62(2):108-S119.
- Huijts T, Kraaykamp G, Subramanian S V (2013) Childlessness and psychological well-being in context: A multilevel study on 24 European countries. *Eur Sociol Rev* 29(1):32-47. doi: 10.1093/esr/jcr037
- Hyde M, Wiggins R D, Higgs P, Blane D B (2003) A measure of quality of life in early old age: the theory, development and properties of a needs satisfaction model (CASP-19). *Aging Ment Health* 7(3):186-194. doi: 10.1080/1360786031000101157

- Igel C, Szydlik M (2011) Grandchild care and welfare state arrangements in Europe. *J Eur Soc Policy* 21(3):210-224. doi:10.1177/0958928711401766
- Isengard, B, Szydlik M (2012) Living Apart (or) Together? Coresidence of Elderly Parents and Their Adult Children in Europe. *Res Aging* 34(4): 449-474, doi: 10.1177/0164027511428455
- Jappens M, van Bavel J (2012) Regional family cultures and child care by grandparents in Europe. *DemRes*, 27:85-120. Doi: 10.4054/DemRes.2012.27.4
- Kiecolt K J, Blieszner R, Savla J (2011) Long-term influences of intergenerational ambivalence on midlife parents' psychological well-being. *J Marriage Fam* 73(2):369-382. doi:10.1111/j.1741-3737.2010.00812.x
- Litwin H, Sapir E V (2009) Perceived income adequacy among older adults in 12 countries: Findings from the survey of health, ageing, and retirement in Europe. *Gerontologist*, 49(3):397-406. doi:10.1093/geront/gnp036
- Lowenstein A (2007) Solidarity-conflict and ambivalence: Testing two conceptual frameworks and their impact on quality of life for older family members. *J Gerontol B-Psychol* 62(2):100-107. doi:10.1093/geronb/gbr157
- Luescher K (2002) Intergenerational ambivalence: Further steps in theory and research. *J Marriage Fam* 64(3):585-593. doi:10.1111/j.1741-3737.2002.00585.x
- Luescher K, Pillemer K (1998) Intergenerational ambivalence: A new approach to the study of parent-child relations in later life. *J Marriage Fam* 60(2):413-425. doi:10.2307/353858
- Muller Z, Litwin H (2011) Grandparenting and psychological well-being: how important is grandparent role centrality? *Eur J Ageing*, 8(2), 109-118. doi:10.1007/s10433-011-0185-5
- Musil C M, Gordon N L, Warner C B, Zauszniewski J A, Standing T, Wykle M (2011) Grandmothers and caregiving to grandchildren: Continuity, change, and outcomes over 24 months. *Gerontologist* 5(1):86-100. doi:10.1093/geront/gnq061

- Netuveli G, Wiggins R D, Hildon Z, Montgomery S M, Blane D (2006) Quality of life at older ages: evidence from the English longitudinal study of aging (wave 1). *J Epidemiol Commun H* 60(4):357-363. doi:10.1136/jech.2005.040071
- OECD (2012) *The Future of Families to 2030*. OECD Publishing, Paris
- Pillemer K, Suitor J J, Mock S E, Sabir M, Pardo T B, Sechrist J (2007) Capturing the complexity of intergenerational relations: Exploring ambivalence within later-life families. *J Soc Issues* 63(4):775-791. doi:10.1111/j.1540-4560.2007.00536.x
- Silverstein M, Bengtson V L, Lawton L (1997) Intergenerational solidarity and the structure of adult child parent relationships in American families. *Am J Sociol* 103(2):429-460. doi:10.1086/231213
- Snijders T A, Bosker R J (1999) *Multilevel analysis: An introduction to basic and advanced multilevel modeling*. Sage Publications Ltd., London
- Steinbach A (2008) Intergenerational solidarity and ambivalence: Types of relationships in German families. *J Comp Fam Stud* 39(1):115+.
- Suitor J J, Gilligan M, Pillemer K (2011) Conceptualizing and measuring intergenerational ambivalence in later life. *J Gerontol B-Psychol* 66(6):769-781. doi:10.1093/geronb/gbr108
- Uchino B N, Holt-Lunstad J, Smith T W, Bloor L (2004) Heterogeneity in social networks: A comparison of different models linking relationships to psychological outcomes. *J Soc Clin Psychol* 23:123-139. doi:10.1521/jscp.23.2.123.31014
- van Gaalen R I, Dykstra P A, Komter A E (2010) Where is the exit? Intergenerational ambivalence and relationship quality in high contact ties. *J Aging Stud* 24:105-114. doi:10.1016/j.jaging.2008.10.006
- Ward R A, Spitze G, Deane G (2009) The more the merrier? Multiple parent-adult child relations. *J Marriage Fam* 71:161-173. doi:10.1111/j.1741-3737.2008.00587.x

Willson A E, Shuey K M, Elder J G H (2006) Ambivalence in mother-adult child relations: A dyadic analysis. *Soc Psychol Quart* 69:235-252. doi:10.1177/019027250606900302

Figure 1

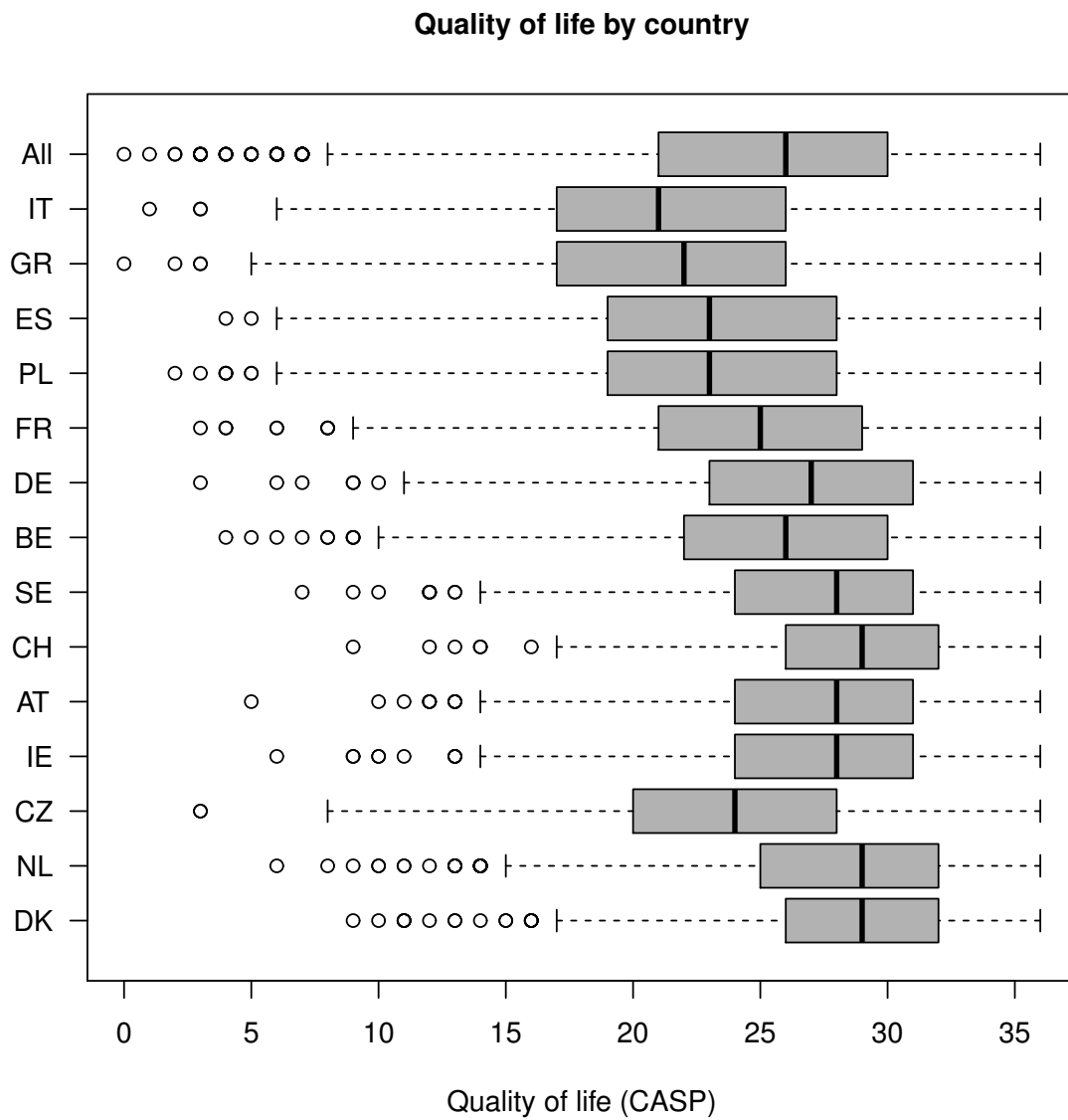


Figure 2

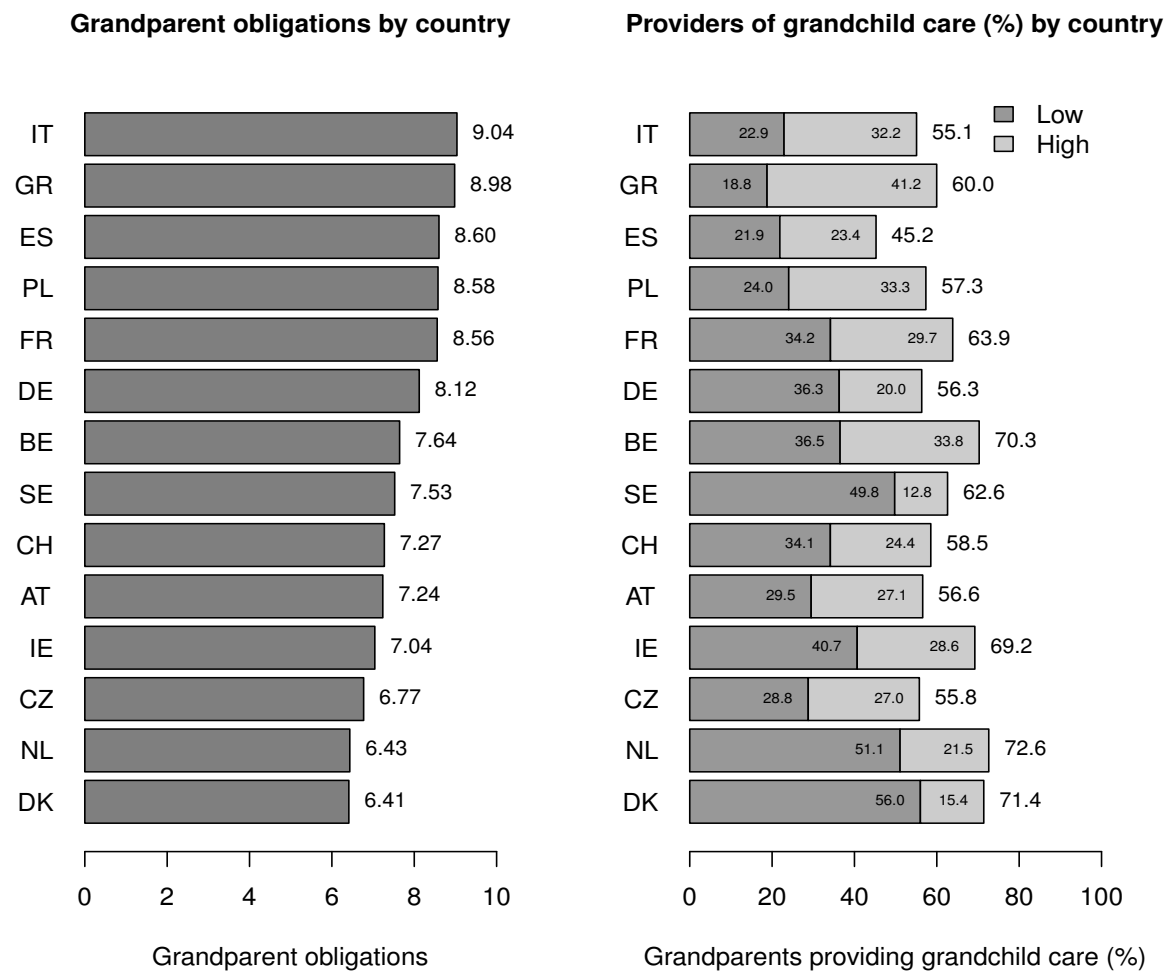


Figure 3

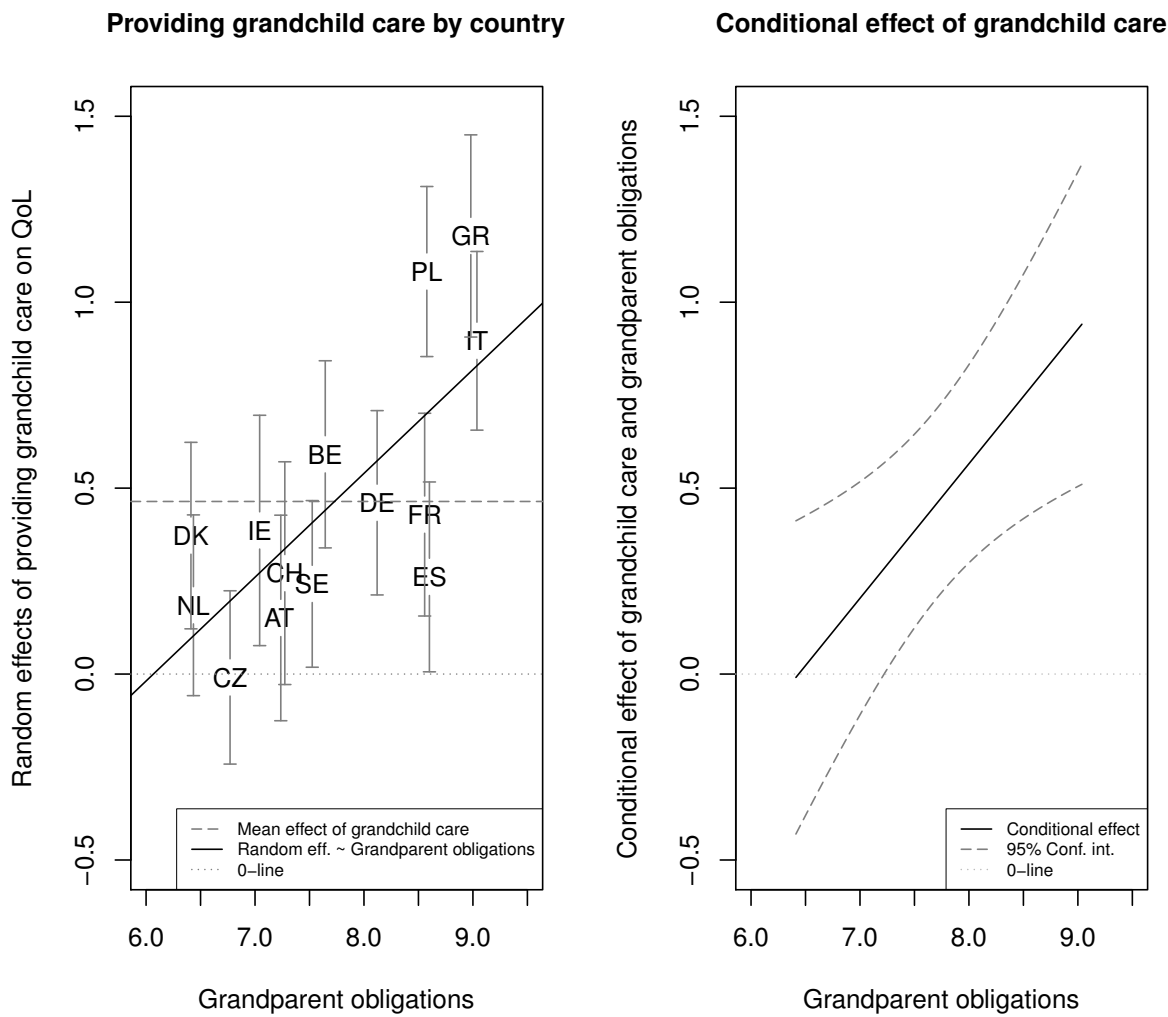


Table 1: Grandchild care and quality of life

	Model 1	Model 2	Model 3	Model 4
Constant	18.25*** (0.68)	18.17*** (0.71)	27.55*** (2.43)	28.20*** (2.45)
Age in years	-0.05*** (0.01)	-0.05*** (0.01)	-0.05*** (0.01)	-0.05*** (0.01)
Gender: female/male	-0.26** (0.10)	-0.25** (0.10)	-0.25** (0.10)	-0.25** (0.10)
Health: (1=poor; 5=excellent)	1.83*** (0.04)	1.83*** (0.04)	1.83*** (0.04)	1.83*** (0.04)
Education: medium/low	0.49*** (0.11)	0.47*** (0.11)	0.48*** (0.11)	0.48*** (0.11)
Education: high/low	0.73*** (0.13)	0.72*** (0.13)	0.72*** (0.13)	0.72*** (0.13)
Financial situation (1=difficult; 4=easily)	1.67*** (0.05)	1.67*** (0.05)	1.67*** (0.05)	1.66*** (0.05)
Status: unemployed/retired	-1.53*** (0.26)	-1.51*** (0.26)	-1.51*** (0.26)	-1.51*** (0.26)
Status: homemaker/retired	-0.43** (0.15)	-0.43** (0.15)	-0.43** (0.15)	-0.43** (0.15)
Status: permanently sick/retired	-1.74*** (0.23)	-1.71*** (0.23)	-1.72*** (0.23)	-1.71*** (0.23)
Status: employed/retired	-0.44** (0.13)	-0.43** (0.13)	-0.43** (0.13)	-0.43** (0.13)
Foreign country of birth	-0.34 (0.18)	-0.34 (0.18)	-0.33 (0.18)	-0.33 (0.18)
Living with partner/single	0.29* (0.12)	0.30* (0.12)	0.30* (0.12)	0.30* (0.12)
Coresiding grandchildren aged <13	-0.44** (0.15)	-0.48** (0.15)	-0.47** (0.15)	-0.48** (0.15)
Instrumental support to someone else	-0.08 (0.09)	-0.08 (0.09)	-0.08 (0.09)	-0.08 (0.09)
High-intensity care	0.16 (0.11)	0.11 (0.12)	0.13 (0.12)	0.11 (0.12)
Provided grandchild care	0.45*** (0.10)	0.46** (0.16)	0.46** (0.15)	-2.33* (1.03)
Grandparent obligations			-1.21*** (0.30)	-1.30*** (0.31)
Grandchild care \times grandparent obligations				0.36** (0.13)
Random intercept variance	1.877	2.270	0.930	0.939
Grandchild care		0.193	0.176	0.081
Residual	23.211	23.169	23.170	23.170
Deviance	76259.79	76248.62	76240.07	76233.58
N	12740	12740	12740	12740

Model 1: Hierarchical linear model (HLM) with random intercept; Model 2: HLM with random effect for grandchild care; Model 3: HLM with macro indicator; Model 4: HLM with cross-level interaction. Data: SHARE, release 2.5.0; 12740 grandparents aged 50+ with at least one living grandchild aged 12 years or younger; own calculations. Coefficients from REML estimation. Significance levels: '***' 0.001, '**' 0.01 and '*' 0.05.

Structured Ambivalence in Grandchild Care: The Quality of Life of European Grandparents – Tables and Figures and Supplemental Material

Franz Neuberger and Klaus Haberkern

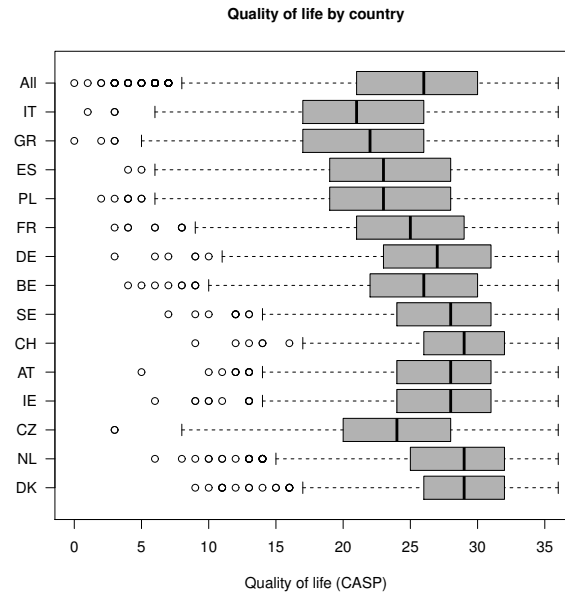
Contents

1	Tables and figures included in the paper	2
1.1	Descriptive figures	2
1.2	Models	3
2	Additional tables not included in the paper	5
2.1	Distribution of variables in countries under study	5
2.2	Model comparison: ANOVA	6
2.3	Additional tables for gender comparison	6

1 Tables and figures included in the paper

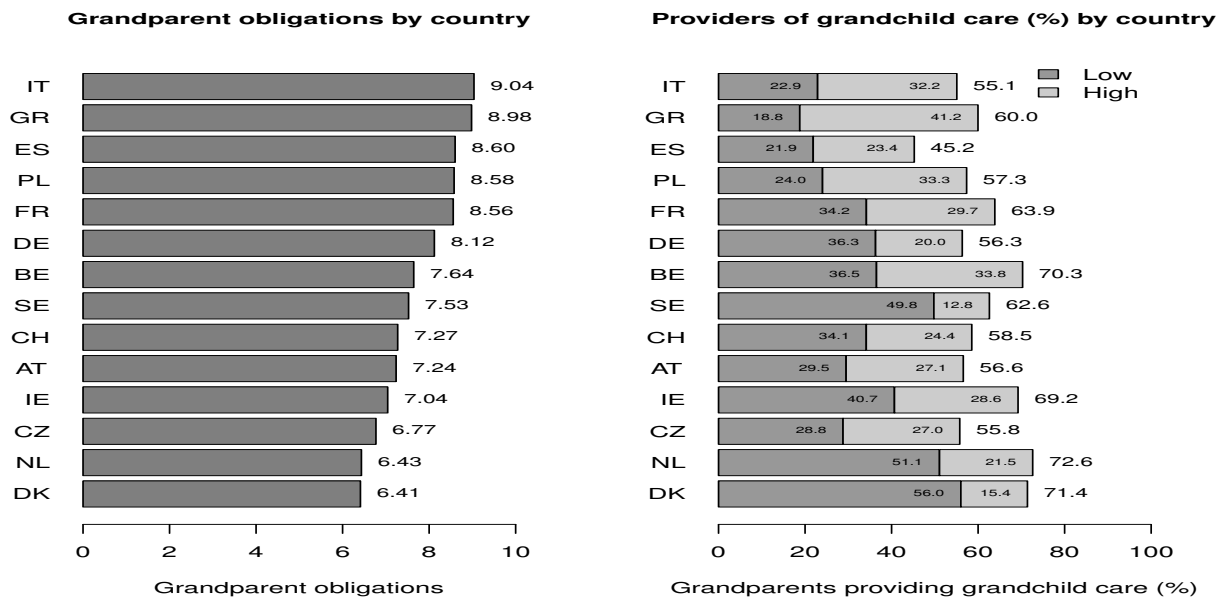
1.1 Descriptive figures

Figure 1: Quality of life in countries under study



Data: SHARE, release 2.5.0; 12740 persons aged 50+ and their partners with at least one living child and grandchild; box-plots of quality of life overall and by country (CASP), own calculations.

Figure 2: Grandparenting norms and persons who provide grandchild care by country (%)



Data: SHARE, release 2.5.0; 12740 persons aged 50+ and their partners with at least one living child and grandchild; average grandparent obligations (left) and average grandchild care (low and high intensity care) provided by respondents by country (right), own calculations.

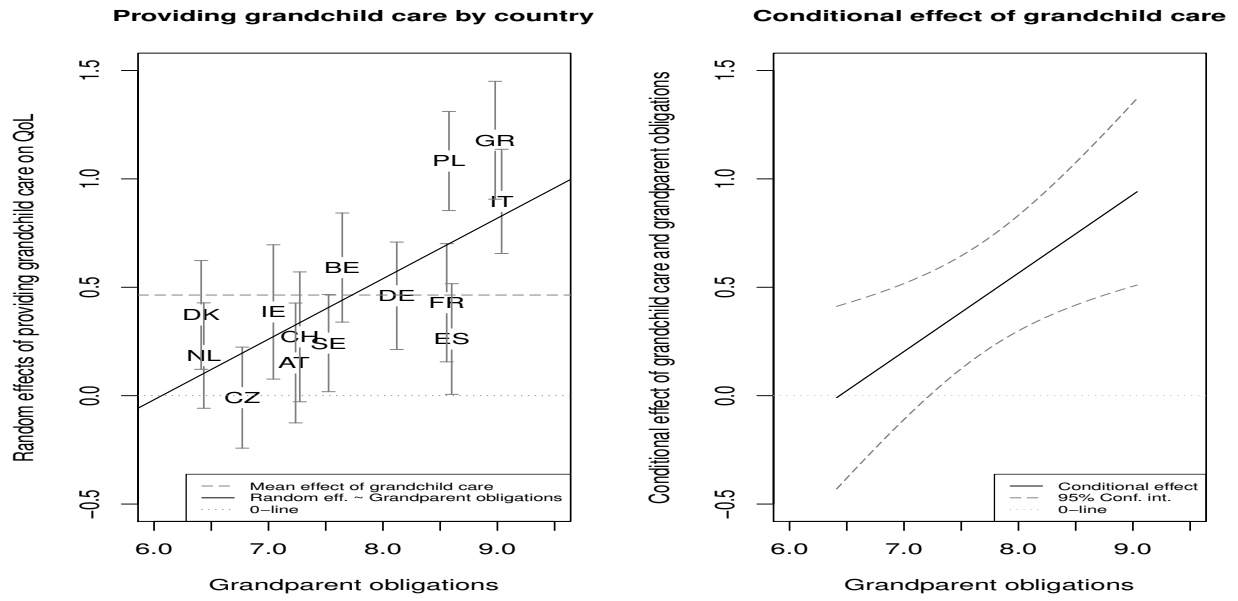
1.2 Models

Table 1: Grandchild care and quality of life

	Model 1	Model 2	Model 3	Model 4
Constant	18.25*** (0.68)	18.17*** (0.71)	27.55*** (2.43)	28.20*** (2.45)
Age in years	-0.05*** (0.01)	-0.05*** (0.01)	-0.05*** (0.01)	-0.05*** (0.01)
Gender: female/male	-0.26** (0.10)	-0.25** (0.10)	-0.25** (0.10)	-0.25** (0.10)
Health: (1=poor; 5=excellent)	1.83*** (0.04)	1.83*** (0.04)	1.83*** (0.04)	1.83*** (0.04)
Education: medium/low	0.49*** (0.11)	0.47*** (0.11)	0.48*** (0.11)	0.48*** (0.11)
Education: high/low	0.73*** (0.13)	0.72*** (0.13)	0.72*** (0.13)	0.72*** (0.13)
Financial situation (1=difficult; 4=easily)	1.67*** (0.05)	1.67*** (0.05)	1.67*** (0.05)	1.66*** (0.05)
Status: unemployed/retired	-1.53*** (0.26)	-1.51*** (0.26)	-1.51*** (0.26)	-1.51*** (0.26)
Status: homemaker/retired	-0.43** (0.15)	-0.43** (0.15)	-0.43** (0.15)	-0.43** (0.15)
Status: permanently sick/retired	-1.74*** (0.23)	-1.71*** (0.23)	-1.72*** (0.23)	-1.71*** (0.23)
Status: employed/retired	-0.44** (0.13)	-0.43** (0.13)	-0.43** (0.13)	-0.43** (0.13)
Foreign country of birth	-0.34 (0.18)	-0.34 (0.18)	-0.33 (0.18)	-0.33 (0.18)
Living with partner/single	0.29* (0.12)	0.30* (0.12)	0.30* (0.12)	0.30* (0.12)
Coresiding grandchildren aged <13	-0.44** (0.15)	-0.48** (0.15)	-0.47** (0.15)	-0.48** (0.15)
Instrumental support to someone else	-0.08 (0.09)	-0.08 (0.09)	-0.08 (0.09)	-0.08 (0.09)
High-intensity care	0.16 (0.11)	0.11 (0.12)	0.13 (0.12)	0.11 (0.12)
Provided grandchild care	0.45*** (0.10)	0.46** (0.16)	0.46** (0.15)	-2.33* (1.03)
Grandparent obligations			-1.21*** (0.30)	-1.30*** (0.31)
Grandchild care × grandparent obligations				0.36** (0.13)
Random intercept variance	1.877	2.270	0.930	0.939
Grandchild care		0.193	0.176	0.081
Residual	23.211	23.169	23.170	23.170
Deviance	76259.79	76248.62	76240.07	76233.58
N	12740	12740	12740	12740

Model 1: Hierarchical linear model (HLM) with random intercept; Model 2: HLM with random effect for grandchild care; Model 3: HLM with macro indicator; Model 4: HLM with cross-level interaction. Data: SHARE, release 2.5.0; 12740 grandparents aged 50+ with at least one living grandchild aged 12 years or younger; own calculations. Coefficients from REML estimation. Significance levels: '***' 0.001, '**' 0.01 and '*' 0.05.

Figure 3: Random effects and conditonal effect of grandchild care



Data: SHARE, release 2.5.0; 12,740 persons aged 50+ and their partners with at least one living child and grandchild; random effects of providing grandchild care on quality of life (left) and conditional effect of providing grandchild care and of grandparent obligations (right); own calculations.

2 Additional tables not included in the paper

2.1 Distribution of variables in countries under study

Table 2: Per country distribution of variables

Variables	AT	DE	SE	NL	ES	IT	FR	DK	GR	CH	BE	CZ	PL	IE	All
CASP	27.10	26.54	27.28	27.9	23.22	21.39	24.69	28.8	21.27	28.60	25.86	23.558	23.07	27.15	25.42
(sd)	5.44	5.59	4.74	5.2	6.43	5.92	5.70	4.5	6.22	4.76	5.61	5.546	6.54	5.47	6.09
Age in years	63.36	63.32	63.99	63.9	66.47	65.49	62.64	63.1	65.38	65.33	62.87	60.802	61.90	65.41	63.63
(sd)	7.55	7.70	7.83	7.6	8.21	7.52	8.02	8.0	8.25	8.37	7.83	6.460	8.15	8.09	7.92
Female %	56.09	51.57	52.84	53.3	53.03	54.69	53.64	54.6	55.46	54.77	50.47	55.943	56.09	57.36	54.07
Health: (1=poor; 5=excellent)	3.43	3.06	3.54	3.3	2.79	2.88	3.14	3.6	3.17	3.51	3.45	2.736	2.21	3.30	3.13
(sd)	0.99	1.00	1.06	1.0	1.02	1.07	1.01	1.1	1.03	0.99	0.99	0.935	0.97	1.16	1.10
Education: low %	29.97	15.93	50.82	59.9	88.75	80.85	48.88	19.8	78.46	36.36	48.40	55.496	44.49	44.62	50.54
Education: medium %	51.28	57.20	28.51	22.4	6.06	15.30	35.71	44.4	17.76	56.76	26.23	35.299	48.41	17.80	32.72
Education: high %	18.75	26.87	20.67	17.7	5.19	3.85	15.41	35.8	3.78	6.87	25.38	9.205	7.10	37.58	16.73
Fin. Sit. (1=difficult; 4=easily)	2.97	3.04	3.27	3.2	2.29	2.23	2.77	3.4	2.00	3.27	3.04	2.366	2.02	2.84	2.77
(sd)	0.77	0.89	0.78	0.8	0.87	0.85	0.92	0.8	0.90	0.82	0.92	0.806	0.80	0.94	0.97
Status: unemployed %	3.21	6.61	2.39	1.7	4.08	1.58	3.64	3.2	1.75	1.33	5.38	3.217	4.42	1.98	3.27
Status: homemaker %	12.18	11.38	0.82	27.4	35.11	25.77	10.92	1.0	31.00	11.09	16.23	0.089	5.09	24.40	13.94
Status: permanently sick %	1.12	2.49	2.54	7.7	4.57	1.09	2.94	4.5	0.87	2.44	3.96	2.324	12.52	6.37	4.25
Status: employed %	17.31	27.52	39.78	21.8	12.98	11.85	27.59	39.8	16.59	32.15	21.70	32.082	14.69	23.96	24.80
Status: retired %	66.19	52.00	54.48	41.5	43.26	59.72	54.90	51.5	49.78	52.99	52.74	62.288	63.27	43.30	53.74
Foreign country of birth %	7.53	18.63	7.99	3.5	3.21	1.48	15.13	2.8	1.60	15.30	6.60	4.468	2.84	7.91	6.44
Living with partner %	72.60	87.32	86.94	88.7	87.14	87.27	81.23	82.1	79.04	76.94	82.55	80.340	84.06	72.31	83.22
Coresiding grandchildren aged <13 %	14.26	11.38	0.75	1.6	13.97	16.98	2.80	1.5	22.56	3.99	3.11	16.801	34.72	5.27	10.82
Instrumental support to someone else %	33.81	37.38	47.46	47.2	19.28	28.63	38.66	49.7	24.16	35.25	43.21	39.231	25.46	39.78	37.34
Provided grandchild care %	56.57	56.34	62.61	72.6	45.24	55.08	63.87	71.4	59.97	58.54	70.28	55.764	57.35	69.23	61.46
Provided no grandchild care %	43.43	43.66	37.39	27.4	54.76	44.92	36.13	28.6	40.03	41.46	29.72	44.236	42.65	30.77	38.54
Low-intensity care (1-8 hours per week) %	29.49	36.29	49.78	51.1	21.88	22.90	34.17	56.0	18.78	34.15	36.51	28.776	24.04	40.66	35.77
High-intensity care (>8 hours per week) %	27.08	20.04	12.84	21.5	23.36	32.18	29.69	15.4	41.19	24.39	33.77	26.988	33.31	28.57	25.69
MACRO: Grandparent obligations	7.24	8.12	7.53	6.4	8.60	9.04	8.56	6.4	8.98	7.27	7.64	6.771	8.58	7.04	7.69
N	624	923	1340	1249	809	1013	714	1098	687	451	1060	1119	1198	455	12740

Data: SHARE, release 2.5.0; 12740 grandparents aged 50+ with at least one living grandchild aged 12 years or younger; own calculations.

2.2 Model comparison: ANOVA

Table 3: ANOVA of Model 1 and 2

	Df	AIC	BIC	logLik	Chisq	Chi Df	Pr(>Chisq)
Model.1	19.000	76297.786	76439.383	-38129.893			
Model.2	21.000	76290.620	76447.122	-38124.310	11.166	2.000	0.004

Table 4: ANOVA of Model 3 and 4

	Df	AIC	BIC	logLik	Chisq	Chi Df	Pr(>Chisq)
Model.3	22.000	76284.068	76448.023	-38120.034			
Model.4	23.000	76279.579	76450.987	-38116.790	6.489	1.000	0.011

2.3 Additional tables for gender comparison

Table 9 on the next page provides gender-specific estimations of Model 3 and Model 4. We found no fundamental differences between the models for men and women. Both models without interaction term show positive effects of providing grandchild care. Both effects turn negative when the interaction effect with the grandchild care norm is included (Model 4). Considering the significance of the effect, the effect of grandchild care in Model 3 for males is not significant at the 5 % level, neither is the interaction effect, but both are close. Table 5 reveals that the introduction of the interaction term significantly improves our Model at the 10 % level.

This difference in significance levels could be explained by the number of cases. Table 7 shows that in general, more women than men provide support. Considering the intensity, Table 8 shows that women provide not only more but also more intensive support. Yet since we are not interested in the frequency of support but in its relation to quality of life, we do not provide separate models for men and women. Although the effects tend to be stronger and more significant for women than for men, we have no reason to assume a gender-specific mechanism regarding the relation of grandchild care and QoL. Therefore, we do not provide separate models for grandmothers and grandfather in the manuscript.

Table 5: ANOVA of Male Model 3 and 4

	Df	AIC	BIC	logLik	Chisq	Chi Df	Pr(>Chisq)
Model.3.Male	21.000	34810.691	34950.856	-17384.345			
Model.4.Male	22.000	34809.449	34956.289	-17382.724	3.242	1.000	0.072

Table 6: ANOVA of Female Model 3 and 4

	Df	AIC	BIC	logLik	Chisq	Chi Df	Pr(>Chisq)
Model.3.Female	21.000	41478.059	41621.647	-20718.029			
Model.4.Female	22.000	41472.177	41622.603	-20714.089	7.881	1.000	0.005

Table 7: Support by Gender

	no	yes
Male	2648	3204
Female	2262	4626

2 Additional tables not included in the paper

Table 8: Intensity of Support by Gender

	0 hours	1-8 hours	>8 hours
Male	2648	2023	1181
Female	2262	2534	2092

Table 9: Grandchild care and quality of life

	Model 3 Male	Model 4 Male	Model 3 Female	Model 4 Female
Constant	26.01*** (2.57)	27.41*** (2.70)	30.23*** (2.36)	29.30*** (2.44)
Age in years	-0.06*** (0.01)	-0.06*** (0.01)	-0.05*** (0.01)	-0.05*** (0.01)
Health: (1=poor; 5=excellent)	1.70*** (0.06)	1.70*** (0.06)	1.93*** (0.06)	1.93*** (0.06)
Education: medium/low	0.56*** (0.16)	0.56*** (0.16)	0.45** (0.14)	0.45** (0.14)
Education: high/low	0.92*** (0.18)	0.92*** (0.18)	0.57** (0.20)	0.57** (0.20)
Financial situation (1=difficult; 4=easily)	1.56*** (0.08)	1.56*** (0.08)	1.76*** (0.07)	1.76*** (0.07)
Status: unemployed/retired	-1.94*** (0.37)	-1.94*** (0.37)	-1.21*** (0.36)	-1.21*** (0.36)
Status: homemaker/retired	-1.69 (1.12)	-1.69 (1.12)	-0.36* (0.17)	-0.35* (0.17)
Status: permanently sick/retired	-1.55*** (0.33)	-1.55*** (0.33)	-1.94*** (0.32)	-1.92*** (0.32)
Status: employed/retired	-0.42* (0.19)	-0.42* (0.19)	-0.50** (0.19)	-0.48* (0.19)
Foreign country of birth	-0.49 (0.26)	-0.49 (0.26)	-0.20 (0.24)	-0.21 (0.24)
Living with partner/single	0.34 (0.23)	0.35 (0.23)	0.20 (0.15)	0.20 (0.15)
Coresiding grandchildren aged <13	-0.21 (0.22)	-0.21 (0.22)	-0.69*** (0.20)	-0.71*** (0.20)
Instrumental support to someone else	0.14 (0.13)	0.14 (0.13)	-0.24 (0.13)	-0.24 (0.13)
High-intensity care	0.20 (0.18)	0.18 (0.18)	0.13 (0.15)	0.09 (0.15)
Provided grandchild care	0.40 (0.21)	-2.43 (1.56)	0.51** (0.18)	-3.02* (1.18)
Grandparent obligations	-0.91** (0.31)	-1.09*** (0.33)	-1.65*** (0.29)	-1.53*** (0.30)
Grandchild care × grandparent obligations		0.37 (0.20)		0.46** (0.15)
Random intercept variance	1.034	1.033	0.758	0.797
Grandchild care	0.312	0.213	0.136	0.031
Residual	22.139	22.141	23.892	23.881
Deviance	34768.69	34765.45	41436.06	41428.18
N	5852	5852	6888	6888

Data: SHARE, release 2.5.0; 12740 grandparents aged 50+ with at least one living grandchild aged 12 years or younger; own calculations.
Coefficients from REML estimation. Significance levels: '***' 0.001, '**' 0.01 and '*' 0.05.